Appendix D

Examples of Surface Geophysical Surveys

Appendix D

Examples of Surface Geophysical Surveys

This appendix provides selected regional and Hanford Site geophysical survey results.

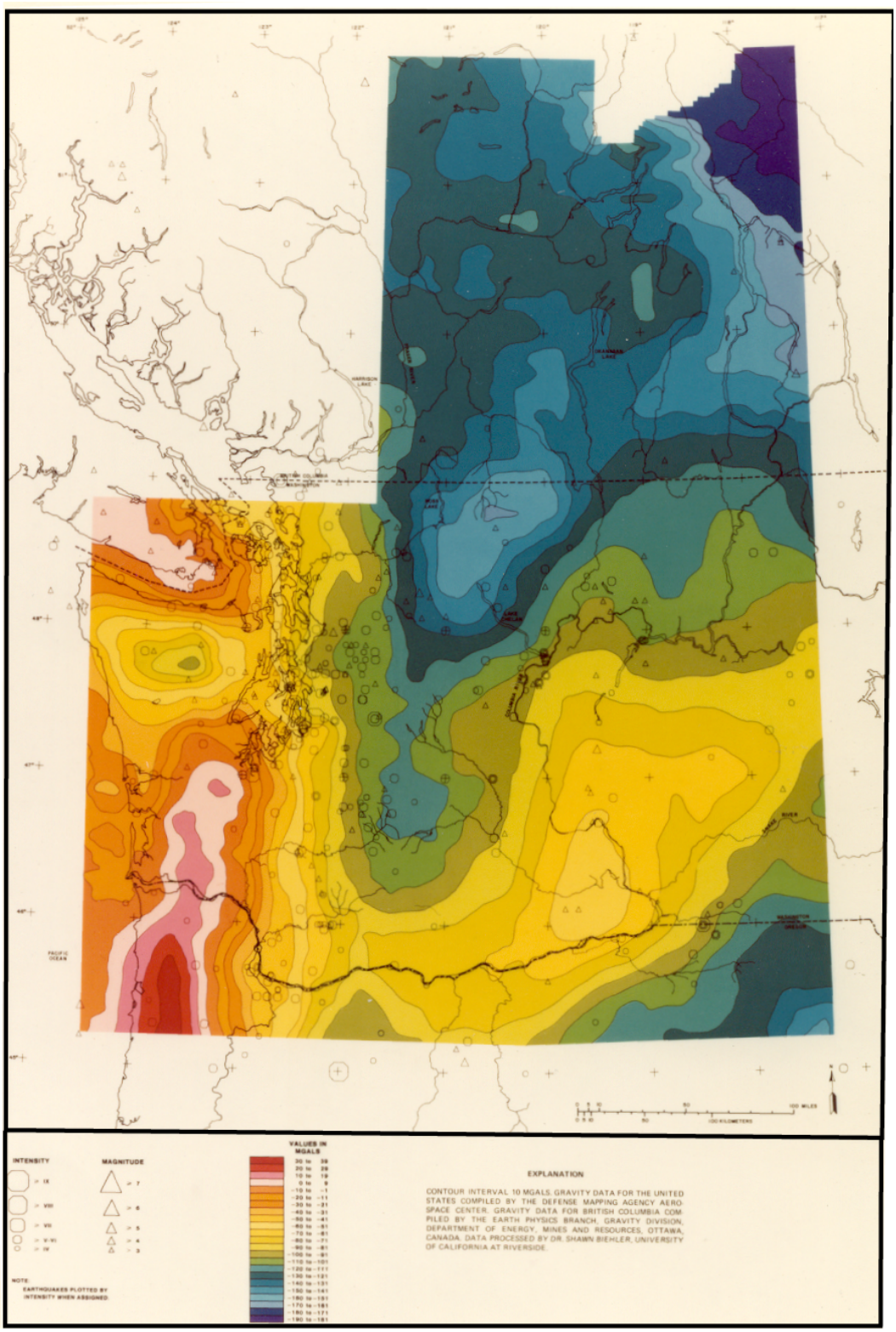

Figure D.1. Regional Gravity Map for the Columbia Basin (from WPPSS 1981)

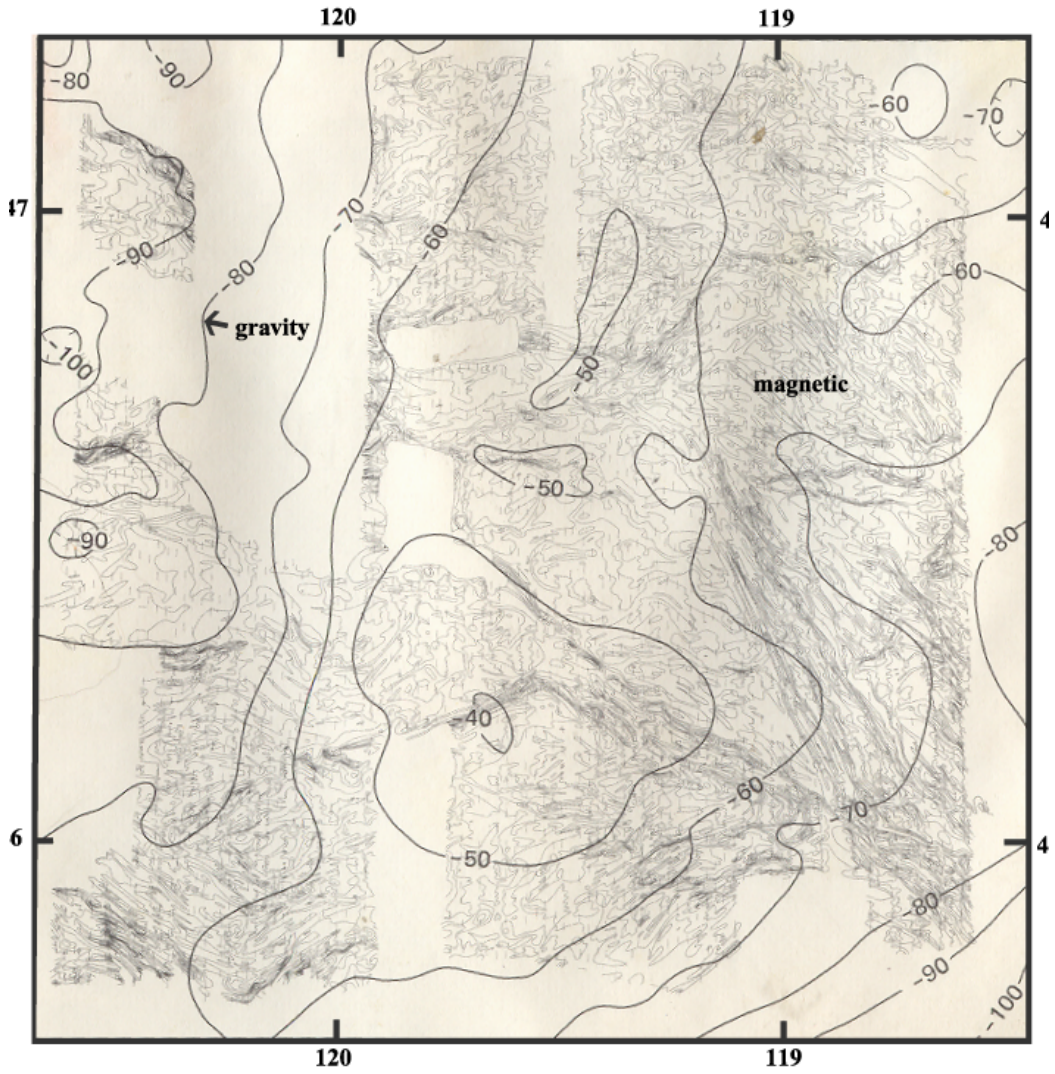

Figure D.2. Magnetic and Gravity Data from the Columbia Basin (Swanson et al. 1979a). The most prominent magnetic features on the map are the Yakima folds (e.g., Horse Heaven Hills centered at 40) and the northwest-trending Ice Harbor dike swarm on the east side of the map.

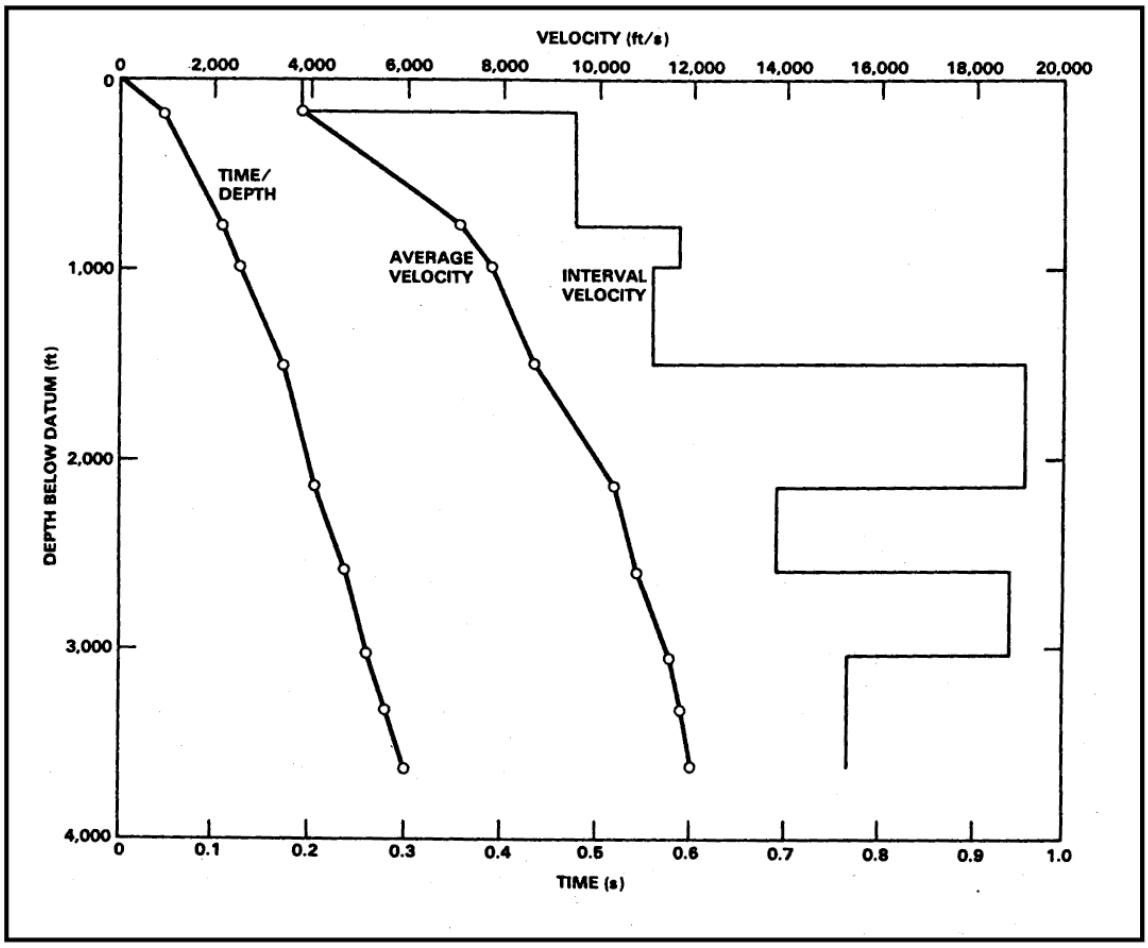

Figure D.3. Time versus Depth and Velocity Curves from Borehole DC-6 at the Hanford Site. See Figure D.4 for location of borehole DC-6. From 0 feet to 350 feet is sediment overlying the basalt. The Saddle Mountains Basalt is from 350 feet to 993 feet. Wanapum Basalt is from 993 feet to 2,155 feet. The Grande Ronde Basalt is from 2,155 feet to total depth. The increasing velocity reflects fewer sedimentary interbeds between the younger, upper basalt lava flows.

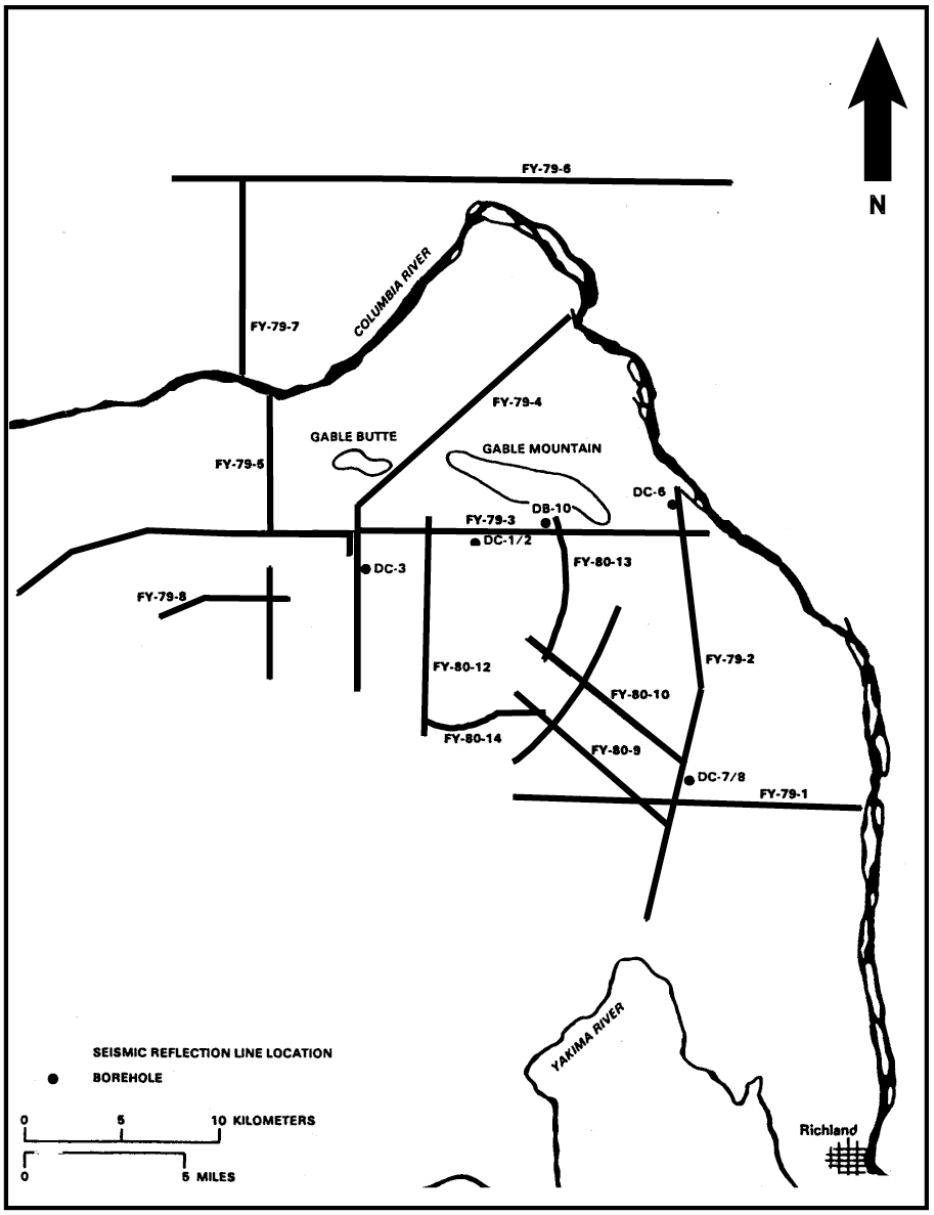

Figure D.4. Location of Seismic Reflection Lines Conducted on the Hanford Site

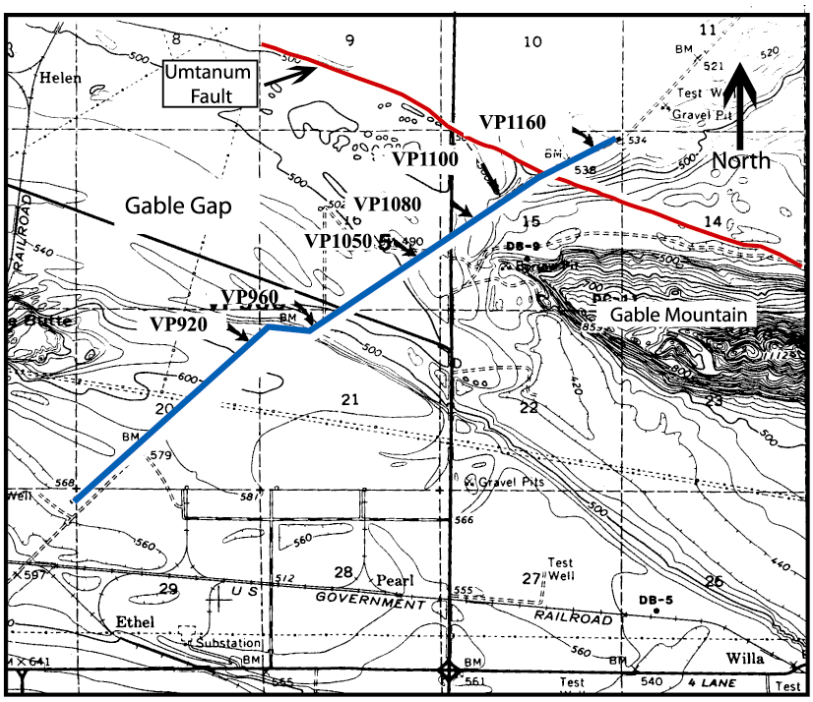

Figure D.5. Location for Seismic Reflection Line FY79-4 (Figure D.4) and Shown in Figure D.6. The seismic survey shown is located on the Hanford Site and crosses the Umtanum Ridge-Gable Mountain structure.

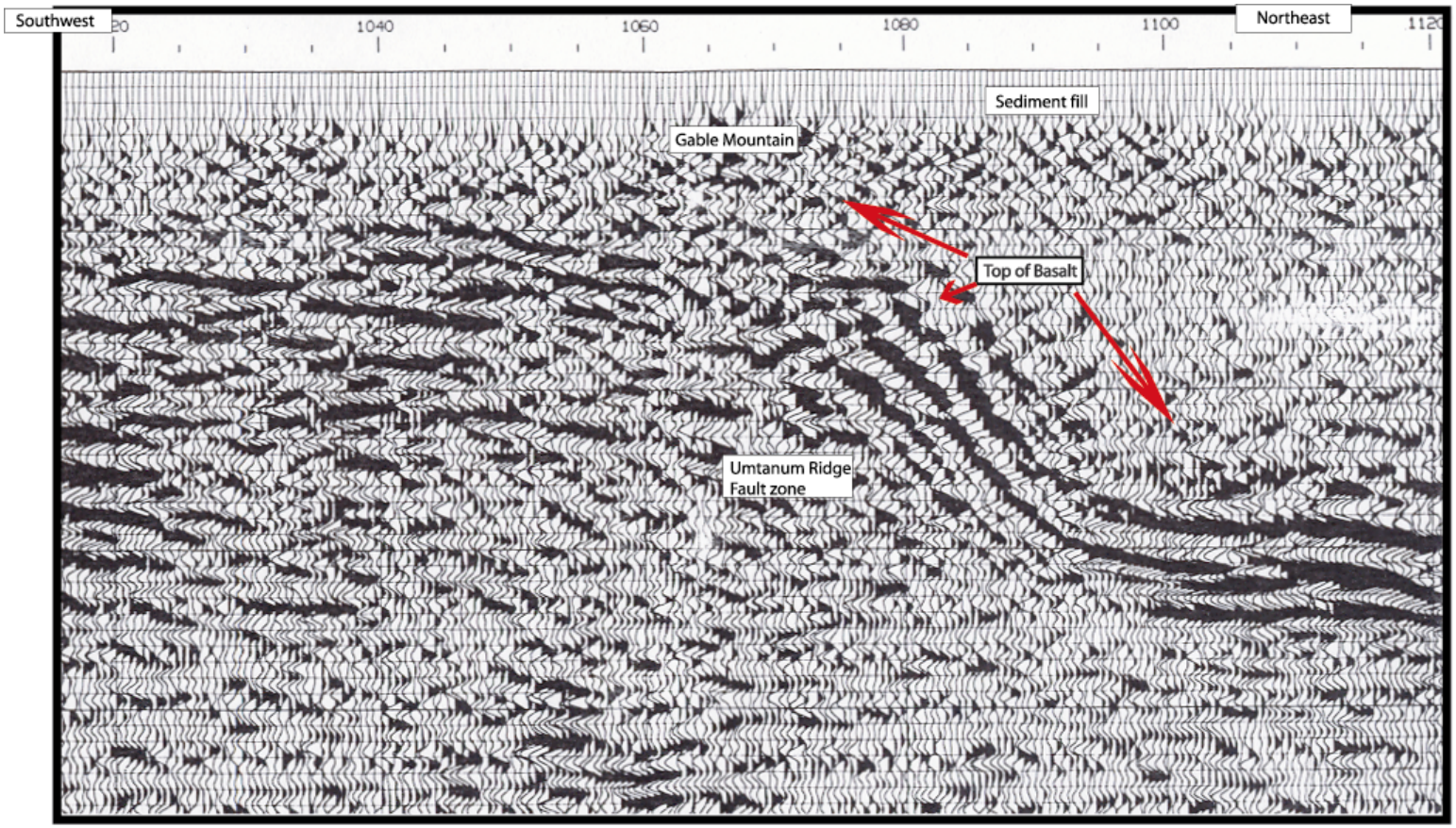

Figure D.6. Seismic Line Across the Gable Mountain-Umtanum Ridge Anticline (see Figure D.5 for location of seismic line)

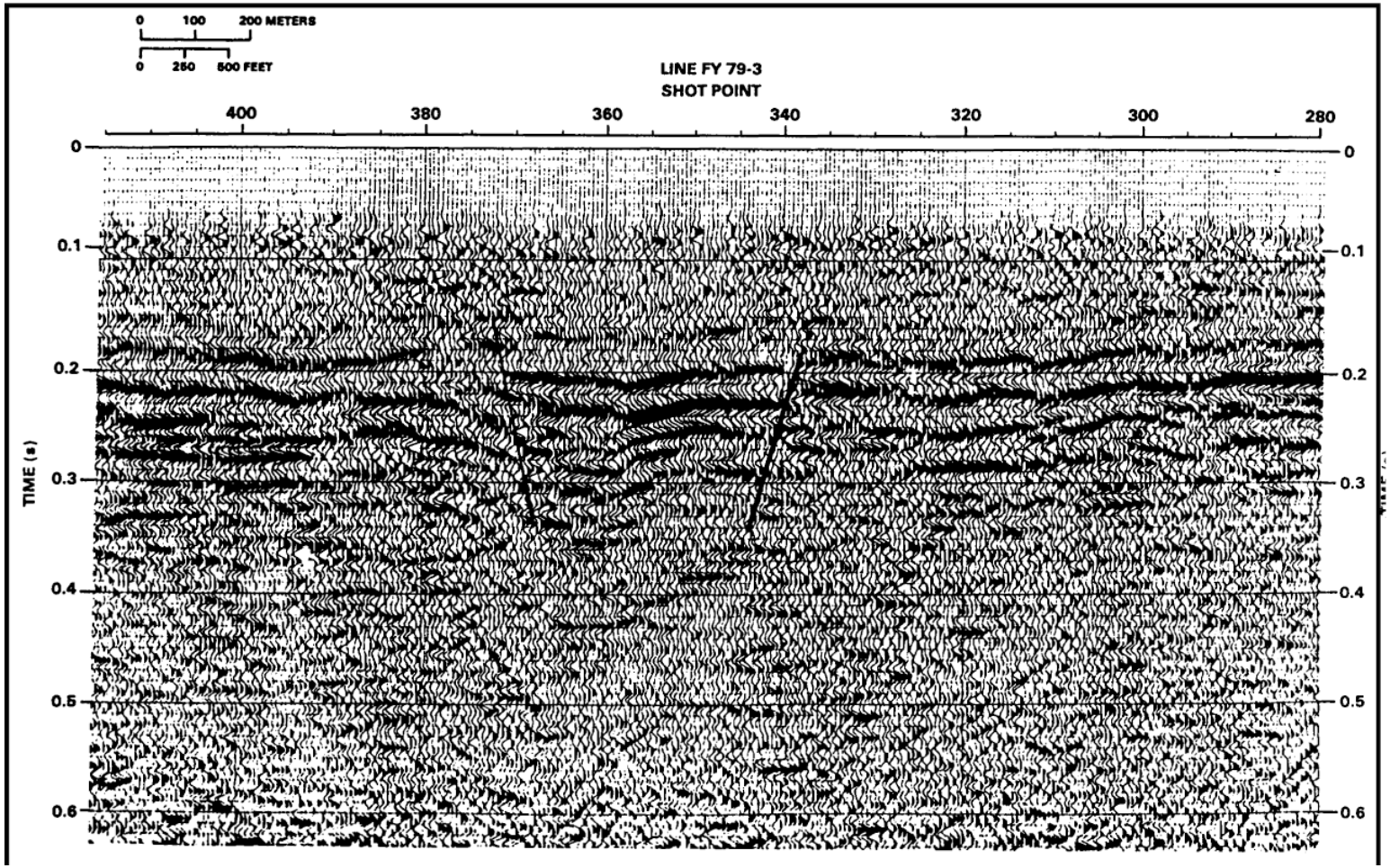

Figure D.7. West to East Seismic Reflection Line FY79-3 Crossing Normal Faults in Basalts (May Junction fault). West is to left and east is to right. (See Figure D.4 for location of seismic reflection line.)

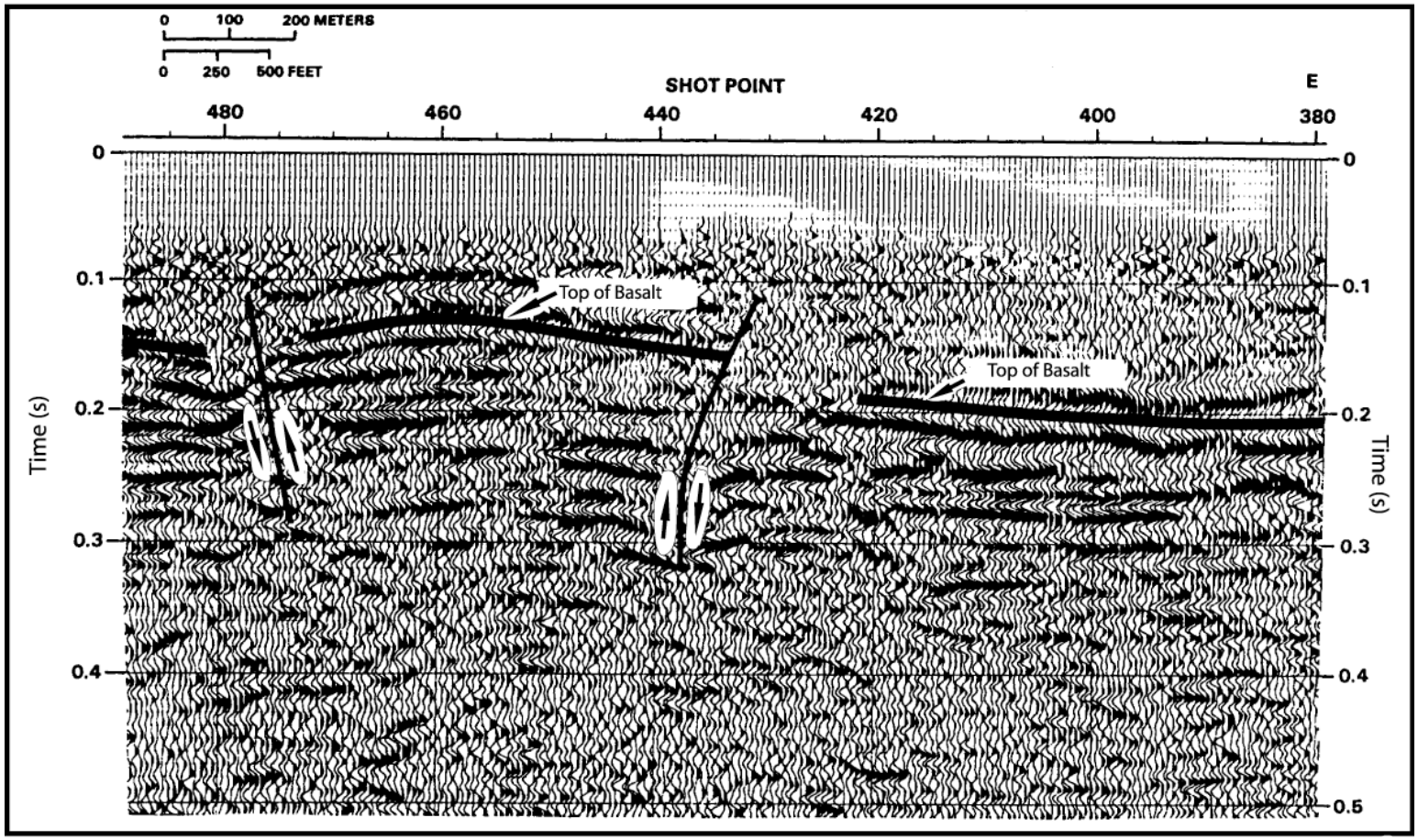

Figure D.8. Seismic Reflection Line Across Borehole DB-10 (Figure D.4) on Southern Portion of Gable Mountain Anticline. The eastern most fault is a reverse fault that was intersected by borehole DB-10.